

REMARKS

STATUS OF THE CLAIMS:

Claims 3, 16-17, 28-106, 109, and 112-114 have been withdrawn from consideration as being drawn to a non-elected invention and species. Claims 1, 2, 4-15, 18-27, 107-108, 110-111 and 115-124 are currently pending in the application. By this Amendment, claims 1, 8-11, 27, and 107 are amended, and claims 115-124 are added. Entry and reconsideration of the pending claims 1, 2, 4-15, 18-27, 107-108, 110-111 and 115-124 are respectfully requested.

CLAIM REJECTIONS – 35 U.S.C. 102(b) or 35 U.S.C. 103(a)

On page 2 of the Office Action, claims 1, 2, 4-8, 19, 26, 27, 107 and 108 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over United States Patent Number 4,391,672 issued to Lehtinen.

Claim 1 of the present application is hereby amended, and calls for (amendment marks not shown; underlining added for emphasis):

A method of forming a web, comprising:

... vibrating a vibrational head, the vibrational head supported by a frame and having upstream and downstream portions with respect to wire movement past the vibrational head;

lifting and lowering the upstream and downstream portions of the vibrational head independently with respect to the frame responsive to vibrating the vibrational head;

transferring a vibrational force to the wire by directly contacting the wire with the vibrational head

Amended claim 1 calls for a vibrational head having upstream and downstream portions that are movable independently with respect to a frame. As discussed in greater detail below, Lehtinen fails to teach, describe or suggest a vibrational head. Lehtinen therefore also fails to teach, describe, or suggest upstream and downstream portions of a vibrational head both movable independently with respect to the frame. The only devices employed to impart vibration to a wire in the Lehtinen device are the ultrasonic radiators 10A, 10B. Even if these elements were comparable to the vibrational heads claimed in amended claim 1 (and the

Applicants respectfully submit that this cannot be the case), none of the ultrasonic radiators 10A, 10B have portions that are lifted and lowered independently with respect to a frame as claimed in amended claim 1. Lehtinen also fails to provide any indication regarding why a relationship between the vibrational head and the frame as claimed in amended claim 1 would be advantageous or desirable, nor how the Lehtinen device could be modified to have the structure and to perform the method claimed in amended claim 1.

In addition to the claimed relationship between the vibrational head and the frame as discussed above, it should be noted that Lehtinen fails to teach, describe or suggest a vibrational head – whether for imparting vibration to a wire or for any other purpose. Instead, Lehtinen discloses an acoustic frequency generator connected to ultrasonic radiators for exposing a passing material to ultrasonic waves (e.g., via a coupling liquid such as water), and the use of “hydraulic pulsation” for a similar purpose (see column 3, lines 63-65 of Lehtinen). These manners of imparting vibration to passing material are substantially different from the structure employed in the present invention as claimed in amended claim 1. Also, Lehtinen provides no indication regarding why a vibrational head operable and movable as claimed in amended claim 1 would be advantageous or desirable, nor how the Lehtinen device could be modified to employ such a structure and to operate in such a manner.

Accordingly, the Applicants submit that amended claim 1 is novel and patentable over the prior art. Withdrawal of the 102(b) and 103(a) rejections of claim 1 is therefore respectfully requested.

Claim 107 is also hereby amended, and calls for (amendment marks not shown; underlining added for emphasis):

A vibrational device for use with a papermaking machine, the papermaking machine including a wire for receiving stock flow, the vibrational device comprising:

a vibrational device frame;

at least one vibration-inducing mechanism coupled to the vibrational device frame; and

a vibrational head coupled to the at least one vibration-inducing mechanism and in direct contact with the wire to impart the vibrational force to the wire, the vibrational head including at least one of an upstream portion which slopes away from the wire to define a gap between the upstream portion and the wire and a downstream portion which slopes away from the wire to define a gap between the downstream portion and the wire.

Amended claim 107 additionally calls for a vibrational head including at least one of an upstream portion which slopes away from the wire to define a gap between the upstream portion and the wire and a downstream portion which slopes away from the wire to define a gap between the downstream portion and the wire. As discussed above with regard to amended claim 1, Lehtinen fails to teach, describe or suggest a vibrational head, and so also fails to disclose a shape of a vibrational head as claimed in amended claim 107. Also, Lehtinen fails to teach, describe or suggest a vibrational head having at least one of an upstream portion which slopes away from a wire to define a gap between the upstream portion and the wire and a downstream portion which slopes away from the wire to define a gap between the downstream portion and the wire. In addition, Lehtinen provides no indication regarding why a vibrational head shaped as claimed in amended claim 107 and having a relationship with respect to a wire as claimed in amended claim 107 would be advantageous or desirable, nor how the Lehtinen device could be modified to employ such structure.

Accordingly, the Applicants submit that amended claim 107 is novel and patentable over the prior art. Withdrawal of the 102(b) and 103(a) rejections of claim 107 is therefore respectfully requested.

Claims 2 and 4-8; 19, 26 and 27; and 108 are each ultimately dependent upon amended independent claims 1, 11 and 107, respectively, and are therefore believed to be allowable based upon amended independent claims 1, 11 and 107 and upon other features and elements claimed in claims 2, 4-8, 19, 26, 27 and 108 but not discussed herein.

CLAIM REJECTIONS – 35 U.S.C. 103(a)

On page 3 of the Office Action, claims 9-15, 18, 20, 21 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lehtinen.

Claim 11 of the present application is hereby amended, and calls for (amendment marks not shown; underlining added for emphasis):

A vibrational device for use with a papermaking machine . . . comprising:
 . . . at least one vibration-inducing mechanism coupled to the vibrational device frame . . .
 . . . a vibrational head coupled to the at least one vibration-inducing mechanism and in direct contact with the wire, the vibrational head having upstream and downstream portions both movable independently with respect to the vibrational device frame toward and away from the wire to impart the vibrational force to the wire.

The discussion above regarding the novelty and patentability of amended claim 1 over Lehtinen applies equally to amended claim 11. In particular, amended claim 11 calls for a vibrational head having upstream and downstream portions that are movable independently with respect to a frame. Lehtinen fails to teach, describe or suggest a vibrational head, and also fails to teach, describe, or suggest upstream and downstream portions of a vibrational head both movable independently with respect to the frame. Lehtinen also fails to provide any indication regarding why a relationship between the vibrational head and the frame as claimed would be advantageous or desirable, nor how the Lehtinen device could be modified to have the structure and to perform the method claimed in amended claim 11.

Accordingly, the Applicants submit that amended claim 11 is novel and patentable over the prior art. Withdrawal of the 103(a) rejection of claim 11 is therefore respectfully requested.

Claims 9-10 and claims 12-15, 18, 20, 21 and 25 are each ultimately dependent upon independent claims 1 and 11, respectively, and are therefore believed to be allowable based upon independent claims 1 and 11 and upon other features and elements claimed in claims 9-10, 12-15, 18, 20, 21 and 25 but not discussed herein.

On page 4 of the Office Action, claims 11-15, 20-25, 110 and 111 appear to be rejected under 35 U.S.C. § 103(a) as being obvious over Lehtinen. Additionally, on page 4 of the Office action, claims 20, 22, 23, 110 and 111 appear to be rejected under 35 U.S.C. § 103(a) as being obvious over Lehtinen in view of United States Patent Number 3,598,694 issued to Wiebe, and United States Patent Number 5,830,322 issued to Cabrera y Lopez Caram et al.

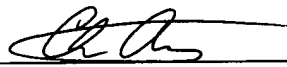
The novelty and patentability of amended claim 11 in view of Lehtinen is discussed in detail above. Claims 12-15, 20-25 and claims 110 and 111 are each ultimately dependent upon independent claims 11 and 107, respectively, and are therefore believed to be allowable based upon independent claims 11 and 107 and upon other features and elements claimed in claims 12-15, 20-25, 110 and 111 but not discussed herein.

NEW CLAIMS

New claims 115-124 are hereby added to more fully claim that which the Applicants regard as the invention, and are believed to be novel and patentable over Lehtinen, Wiebe, Cabrera, and the other prior art. It should be noted that new independent claims 115 and 120 each call for a lateral positional relationship between a vibration-inducing mechanism and a vibration isolator. This lateral positional relationship between the vibration-inducing-mechanism and the first vibration isolator is employed in some of the embodiments of the present invention to provide improved performance over conventional devices, and is not taught, described or suggested by any of the prior art.

In view of the above amendments, the Applicants respectfully submit that the claims are patentable over the prior art. Early, favorable consideration of the application and entry of this Amendment are therefore respectfully requested. If any issues remain outstanding following entry of the above amendments, the Examiner is invited to contact the undersigned Applicants' Representative at (414) 225-8266 to discuss the claims further.

Respectfully submitted,

By 
Christopher B. Austin
Registration No. 41,592

Michael Best & Friedrich LLP
100 East Wisconsin Avenue
Milwaukee, WI 53202
(414) 271-6560
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